

# Alpha Resources, Inc. Certificate Of Analysis

AR 642

TITANIUM STANDARD

LOT # COIL C022100

**PPM OXYGEN**  
MEAN = 1500  
ONE SIGMA = 45  
TWO SIGMA = 90  
RANGE = 1410 - 1590

**\*PPM NITROGEN**  
MEAN = 120  
ONE SIGMA = 12  
TWO SIGMA = 24  
RANGE = 96 - 144

**PPM HYDROGEN**  
MEAN = 49  
ONE SIGMA = 3  
TWO SIGMA = 6  
RANGE = 43 - 55

The certified values were determined by the inert gas fusion, vacuum hot extraction, and kjeldahl methods.

\* Note \* Kjeldahl Nitrogen results were 120 PPM +/- 3 PPM for two sigma standard deviation.

Instruments used were:

LECO TC-136, TC-436, RH-404, NRC Model 917

The following Primary Standards were used for calibration.

Gas Dose, NIST SRM 352, 352c, 357, 358

The mean values reported are derived from a number of data sets using the instruments listed above.

The precision value is based on the standard deviation, two times the standard deviation, and complete range of analyses.

The statistical analysis, overall direction, and coordination of the analytical measurements leading to certification were performed by K.E. Dyer at Alpha Resources.

Remedies for any claimed defect in this product will be limited to product replacement or refund of the purchase price. In no event shall Alpha Resources be liable for incidental or consequential damages.

This is a Certified Reference Material (CRM) and is traceable to the above-mentioned standards. For good laboratory practice it is recommended that all standards be verified prior to use.

Certified May, 2000



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